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FROM BMJ JOURNALS

Skinfold thickness, body mass index, and fatal coronary heart disease: 30 year follow up of the Northwick Park heart study

Joseph Kim, Tom Meade, Andy Haines

Please visit the *Heart* website [www.heartjnl.com] for a link to the full text of this article.

Study objective: To examine the effect of baseline body mass index (BMI) and skinfold thickness (ST) on fatal coronary heart disease (CHD) and all cause mortality after 30 years of follow up.

Design: Prospective cohort study.

Setting: Northwick Park heart study (NPHS) designed to investigate the role of haemostatic variables on CHD.

Participants: 1511 men and 691 women enrolled in NPHS aged 40 to 64 years at entry.

Main results: Baseline BMI (kg/m^2) and forearm, triceps, subscapular, and suprailiac skinfolds ST (mm) were measured. Cox regression was used to calculate hazard ratios for fatal CHD and total mortality for each standard deviation unit increase in obesity adjusting for age, smoking status, total cholesterol, systolic blood pressure, fibrinogen, and factor VII activity. Subjects experienced 250 fatal CHDs and 819 all cause deaths over 30 years (median: 26 years; IQR: 22–28 years). Among men, only BMI (RR = 1.29, 95%CI = 1.12 to 1.49) significantly increased the risk of fatal CHD. Among women, BMI (RR = 1.48, 95%CI = 1.07 to 2.06), as well as, subscapular (RR = 1.65, 95%CI = 1.19 to 2.30), forearm (RR = 1.46, 95%CI = 1.08 to 1.97), and triceps (RR = 1.63, 95%CI = 1.12 to 2.39) skinfolds were predictive of fatal CHD. None of the estimates for all cause mortality were significant except for subscapular skinfold in women (RR = 1.20, 95%CI = 1.02 to 1.42). There was no evidence of interaction between obesity and sex for fatal CHD or all cause death. The effect of obesity on fatal CHD or all cause deaths does not seem to be mediated substantially by cholesterol, systolic blood pressure, or haemostatic variables.

Conclusions: BMI is an important risk factor for fatal CHD where its prognostic significance remains after up to 30 years of follow up.

▲ *Journal of Epidemiology and Community Health* 2006;**60**:275–279.